

Fourth Stargazing Activity (Partial Solar Eclipse)  
Organized by WYKPSA Astronomy Interest Group (AIG)

WYKPSA-AIG00004-20090722

### **Partial Solar Eclipse (日偏食觀察日)**

After the last lunar eclipse watching, we're glad to announce that a partial solar eclipse can be seen in the morning of 22<sup>nd</sup> July this year. This is a total eclipse that can be seen in Shanghai and some other major Chinese cities, but not Hong Kong. However, it would be the greatest solar eclipse can be seen in Hong Kong for the next decade. 70% area of the sun would be in the shadow of the moon, and the sky would be dimmed that morning during the climax.

AIG would like to call for a gathering to watch this amazing event. Don't miss this chance, or you planned to see it somewhere else. It would be great that Wahyanites can come together to share this joyful creation by God.

This is especially great for family with little children, as solar eclipse is a very extraordinary astronomy phenomenon for a little place like Hong Kong. No travel to icy polar area, no need to buy expensive ticket to see it in the middle of a ocean on a cruise liner, just come back home to our lovely campus and share with your beloved family.

For those who are interested, please feel free to contact us by email or phone given below.

Date: 22<sup>nd</sup> July 2009

Venue: WYK (rooftop of main building, to be confirmed)

Assembly: 08:15 at the Corridor

Target: Old boys, current students and families

(Children are also welcomed with early notification)

To register: Sam Wong ('95) ([aig.wykpsa@gmail.com](mailto:aig.wykpsa@gmail.com) or by phone 9274-8127)

Remark: As the event is totally a four-hour long event. Late-comer and early-leaver are also welcomed. Please state in registration email.

#### Schedule

Time	Target	Direction	Above Horizon	Remarks
08:14	Start of the Eclipse	E	30°	Enter the shadow of the Moon
09:25	Max. Eclipse	E	45°	Climax
10:46	End of the Eclipse	E	70°	Exit from the shadow

## Keys

1. Solar Eclipse watching
2. Sharing on how eclipse happens.

## Tools

1. Telescopes (borrowed from WYK Astronomy Society)
2. Binoculars (borrowed from WYK Astronomy Society)
3. Human Eyes (Don't forget to bring yours)

## Important Notes

1. Although most of the sun light would be covered by the shadow of the moon, PLEASE DO NOT LOOK AT THE SUN DIRECTLY. The radiation is still strong enough to burn your eyes.
2. Never look at the sun via a telescope or binoculars directly. The intensity of radiation would be amplified and burn eyes.
3. The most proper way to watch solar eclipse is to wear special spectacles designed for eclipse watching, or via projection from the telescope.

## Reference

1. Total Solar Eclipse of 2009 July 22 (NASA)  
<http://eclipse.gsfc.nasa.gov/SEmono/TSE2009/TSE2009.html>
2. 香港天氣觀測站  
[http://david.sam-siu.com/weather/special/20090722\\_solar.html](http://david.sam-siu.com/weather/special/20090722_solar.html)
3. 香港太空館  
[http://www.lcsd.gov.hk/CE/Museum/Space/StarShine/c\\_index.htm](http://www.lcsd.gov.hk/CE/Museum/Space/StarShine/c_index.htm)
4. 1919 年日全食觀測與廣義相對論的初步驗證  
日期：2008-07-29 作者：吳鑫基 來源：《中國國家天文》雜誌 4 月號  
[http://big5.xinhuanet.com/gate/big5/www.xj.xinhuanet.com/zt/2008-07/29/content\\_13970470\\_1.htm](http://big5.xinhuanet.com/gate/big5/www.xj.xinhuanet.com/zt/2008-07/29/content_13970470_1.htm)

# Total Solar Eclipse of 2009 Jul 22

Geocentric Conjunction = 02:33:04.4 UT J.D. = 2455034.606301  
 Greatest Eclipse = 02:35:21.1 UT J.D. = 2455034.607884

Eclipse Magnitude = 1.0799 Gamma = 0.0696

Saros Series = 136 Member = 37 of 71

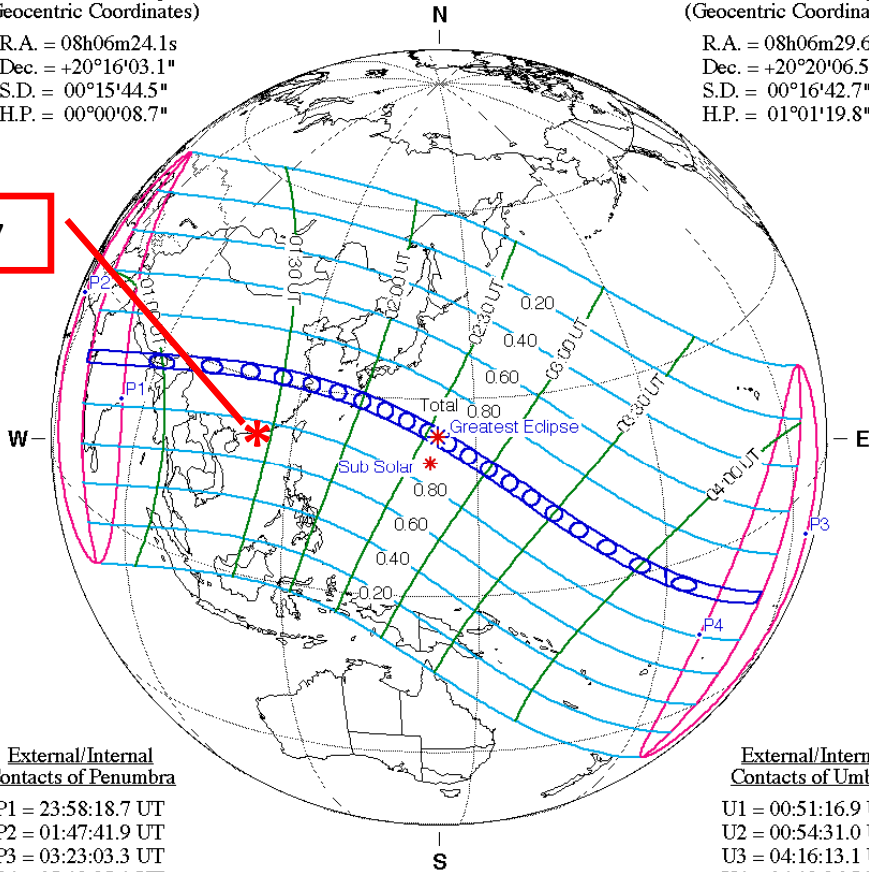
Sun at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 08h06m24.1s  
 Dec. = +20°16'03.1"  
 S.D. = 00°15'44.5"  
 H.P. = 00°00'08.7"

Moon at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 08h06m29.6s  
 Dec. = +20°20'06.5"  
 S.D. = 00°16'42.7"  
 H.P. = 01°01'19.8"

Hong Kong @0.7



External/Internal  
Contacts of Penumbra

P1 = 23:58:18.7 UT  
 P2 = 01:47:41.9 UT  
 P3 = 03:23:03.3 UT  
 P4 = 05:12:25.1 UT

External/Internal  
Contacts of Umbra

U1 = 00:51:16.9 UT  
 U2 = 00:54:31.0 UT  
 U3 = 04:16:13.1 UT  
 U4 = 04:19:26.5 UT

Local Circumstances at Greatest Eclipse

Lat. = 24°12.6'N Sun Alt. = 85.9°  
 Long. = 144°06.4'E Sun Azm. = 197.6°  
 Path Width = 258.4 km Duration = 06m38.8s

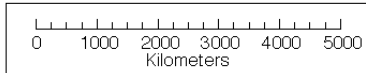
Ephemeris & Constants

Eph. = Newcomb/ILE  
 $\Delta T = 66.2$  s  
 $k1 = 0.2724880$   
 $k2 = 0.2722810$   
 $\Delta b = 0.0'' \quad \Delta l = 0.0''$

Geocentric Libration  
(Optical + Physical)

$l = 0.66^\circ$   
 $b = -0.09^\circ$   
 $c = 10.53^\circ$

Brown Lun. No. = 1071



F. Espenak, NASA's GSFC - Fri, Jul 2,  
[sunearth.gsfc.nasa.gov/eclipse/eclipse.html](http://sunearth.gsfc.nasa.gov/eclipse/eclipse.html)